

TRUE NORTH PROJECT

MONITORING PLAN

**Fairbanks Gold Mining, Inc.
A Subsidiary of Kinross Gold Corporation
P.O. Box 73726
Fairbanks, Alaska 99707-3726**

September 2000

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Appendix B	Groundwater Well Locations
Appendix C	Surface Water Sampling Locations
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1.0 INTRODUCTION

Fairbanks Gold Mining, Inc. (FGMI), a wholly owned subsidiary of Kinross Gold Corporation (KGC) has prepared this monitoring plan for the True North Project.

It is the goal of FGMI to operate the True North Project in a manner that will ensure zero discharge for the protection and enhancement of surface and groundwater quality. This monitoring plan will assist FGMI in the establishment and refinement of operating procedures to ensure the long-term protection of State of Alaska Land, wildlife, and water resources. Periodic updates of the monitoring plan will coincide with regulatory changes, one-year reviews, process modifications, or anomalies noted as a result of monitoring and sampling.

This monitoring plan is an intricate part of the Project Management System (PMS) for the True North Project.

Access by Federal and State regulatory personnel to the True North Project facilities for the purpose of inspecting for reclamation, wildlife mortalities, or other appropriate compliance areas are statutory/regulatory mandates and will be adhered to by FGMI, with the request that agents contact mine management to gain access. The health and safety of FGMI employees and that of regulatory personnel is the rationale for this request. Mining is regulated under the Mine Safety and Health Administration (MSHA) and their regulations require minimum training for employees and visitors for Hazard Recognition and Safety. Visitors as well as employees must wear safety equipment, approved by MSHA.

FGMI requests consideration by the regulatory agencies to conduct routine inspections during weekdays when administration and site managers are available to answer questions and, if necessary, accompany agents to different site components.

1.1 GENERAL INFORMATION

Date: September 2000

Name of Facility: Fairbanks Gold Mining, Inc. – True North Project

Type of Facility: Gold Mine and Operation

Location: The True North Project is within the Chatanika River watershed located on the northwest flank of Pedro Dome approximately 25 miles northeast of Fairbanks. The ridgelines drain into Murray Creek, a tributary of Dome Creek to the south; and Louis Creek, Whiskey Gulch, and Spruce Creek, tributaries of Little Eldorado Creek to the north. More specifically, the Millsite Lease boundary is located in portions of Sections 21, 27, 28, 29, 32, & 33, Township 3N, Range 1E, Fairbanks Meridian (Appendix A). The project site is located entirely on State and University of Alaska land. There is no federal land involved within the project boundaries and the closest residence is approximately one mile from the project boundary.

Corporate Information:

Business Name: Fairbanks Gold Mining, Inc.

Address: P.O. Box 73726
Fairbanks, Alaska 99707-3726

Telephone: (907) 488-4653

General Manager: Thomas E. Irwin

Operations Manager: Rick A. Baker

Fairbanks Gold Mining, Inc. is a wholly owned subsidiary of

Kinross Gold U.S.A., Inc.
185 South State Street, Suite #820
Salt Lake City, UT 84111

Designated Contact Person for Regulatory Issues:

Name: William R. Jeffress
Title: Manager of Environmental Services
Telephone: (907) 488-4653 Ext. 2206

1.2 SITE DESCRIPTION

The True North Project is within the Chatanika River watershed located on the northwest flank of Pedro Dome approximately 25 miles northeast of Fairbanks. The ridgelines drain into Murray Creek, a tributary of Dome Creek to the south; and Louis Creek, Whiskey Gulch, and Spruce Creek, tributaries of Little Eldorado Creek to the north.

The Project will operate year-around with conventional open pit mining averaging 30,000 tons per day, at a 2:1 strip ratio with an average of 82.4% recovery, and producing approximately 180,000 ounces of gold annually. Approximately 10,000 tons of ore per day will be trucked to the Fort Knox mill for processing.

No process components will be present at the property; therefore mining will be similar to a gravel pit or rock quarry operation.

1.3 OBJECTIVES

The objective of baseline monitoring is to collect data that describe the pre-mining surface water and groundwater systems in the project area. These data are used to determine the potential impacts caused by development and operation of the True North Project. The objective of compliance monitoring is to ensure that the True North Project mine operations minimize impacts to the environment. FGMI will continue monitoring and sampling through development, operations, reclamation and closure.

2.0 BASELINE AND COMPLIANCE MONITORING AND SAMPLING

2.1 GROUNDWATER

Appropriate locations of monitoring wells were determined after an outside consulting firm was hired to determine the hydrology of the True North Project area. Nine monitoring wells were installed December 1999 and sampling began in January 2000. Appendix B identifies the well locations. FGMI will continue to evaluate the hydrogeologic features of the True North Project area and determine if additional monitoring wells are necessary.

The nine wells and any additional monitoring wells determined to be necessary will use three monitoring parameters:

	<u>Parameter</u>	<u>Frequency</u>
1.	Profile II*	Quarterly
2.	Profile III	Annually
3.	Static Water Level**	Weekly

- * After two (2) years of monitoring and sampling the analytical profiles, for three of the quarters, the analytical profiles may be reduced to the following: pH, conductivity, alkalinity (as CaCO₃) bicarbonate and total. Any results of analysis from the reduced sample parameters inconsistent with previous water quality analyses will require re-sampling and Profile II analysis. Third quarter sample analytical parameters will be Profile II and Profile III. The annual full parameter analysis will provide a database for comparison and enable the water quality trends to be tracked over the life of the operation.

** After one year of monitoring the static water levels with no significant change, the frequency may be reduced to quarterly readings during the Profile II sampling periods.

A complete analytical list for Profile II and Profile III can be found in Section 3.0.

Individual parameters may be reduced after additional sampling. The criteria for reducing parameters will be based on consistent result of analysis below the detection limit and the potential for changes that could result in water quality concerns.

2.2 SURFACE WATER

Surface water samples include those sources with the potential to be affected by the True North Project mine (Appendix C). The number of surface water sampling locations has been reduced since FGMI narrowed the area of activities to the Millsite Lease area. FGMI monitors surface water in the following locations:

TABLE 2-2
Summary of Surface Water Sites by Drainages

Drainage	Location	Comment
Little Eldorado Creek	Lower Louis Creek	Location consistent with 1999 sampling location
	Whiskey Gulch	Location consistent with 1999 sampling location
	Marshall Gulch	Called "Marshall Creek" in 1999 sampling, continue sampling at 1999 location
	Little Eldorado Creek	1999 location unknown, sample at point downstream of Marshall Gulch
Dome Creek	Upper Dome Creek	New location – try and sample above tailings (where old bus is located), upstream of Murray Creek
	Murray Creek	Location consistent with 1999 sampling location
	Moose Creek	Location consistent with 1999 sampling location
	Lower Dome Creek	Uncertain whether this is location referred to as "Dome Creek" in 1999, sample location consistent with historic location
Spruce Creek	Spruce Creek	1999 location unknown, sample main channel of Spruce Creek down gradient of MW-05
Chatanika River	Chatanika above Little Eldorado Creek	Location consistent with 1999 sample location
	Chatanika below Dome Creek	Location consistent with 1999 sample location

Two parameters will be monitored for these surface water sites:

	<u>Parameter</u>	<u>Frequency</u>
1.	Profile I*	Quarterly
2.	Profile III	Annually

- * After two (2) years of monitoring and sampling the analytical profiles for three of the quarters may be reduced to the following: pH, conductivity, alkalinity (as CaCO₃) bicarbonate and total. Any results of analysis from the reduced sample parameters inconsistent with previous water quality analyses will require re-sampling and Profile I analysis. Third quarter sample analytical parameters will be Profile I and Profile III. The annual full parameter analysis will provide a database for comparison and enable the water quality trends to be tracked over the life of the operation.

A complete analytical list for Profile I and Profile III can be found in Section 3.0.

Individual parameters may be reduced after additional sampling. The criteria for reducing parameters will be based on consistent result of analysis below the detection limit and the potential for changes that could result in water quality concerns.

2.3 CHARACTERIZATION FOR ACID ROCK DRAINAGE

Quarterly and annual characterization of development rock and ore will continue over the life of the mine. Sampling for representative samples will be based on annual operational and geological records identifying materials mined. Acid/base accounting will be performed on the samples. If static evaluations show less than a 3 to 1 ratio of net neutralization potential to net acid generation, kinetic testing (12-week Humidity Cell Testing) will be performed. A detailed explanation of sample collection and analysis is located in Appendix D: Section 2.3.4.

2.4 WASTE ROCK AND OVERBURDEN EVALUATION

The purpose of the annual characterization of development rock and overburden is to evaluate the potential for dissolution and mobility of certain constituents from mine rock samples using the Meteoric Water Mobility Procedure (MWMP). The procedure consists of a single-pass column leach over a 24-hour period using a mine rock sample to extraction fluid (effluent) ration of 1:1. The extraction fluid will have a pH between 5.5 and 6.5 representative of precipitation in this geographic region.

The annual sample submitted for MWMP testing will consist of a composite of representative samples collected over four quarters. A detailed explanation of sample collection analysis is located in Appendix D: Section 2.3.4.

3.0 ANALYTICAL PROFILES FOR LIQUID SAMPLES

Table 3-1
Analytical Profile I -- Surface Water Inorganic Parameters

Major Ion Chemistry	Minor Ion Chemistry	Trace Ion Chemistry
Lab pH Lab Conductivity Temperature (field) Turbidity Settleable Solids Total Suspended Solids Total Dissolved Solids *Calcium *Magnesium *Potassium *Silicon *Sodium Sulfate Chloride Alkalinity (as CaCO ³) Bicarbonate Total Calcium Hardness Magnesium Hardness	*Arsenic Fluoride *Iron *Manganese Nitrogen, Ammonia Nitrate as Nitrogen Nitrite as Nitrogen Total Phosphorus TPH	*Antimony *Barium *Bismuth *Cadmium *Chromium *Copper *Lead *Mercury *Selenium *Silver *Zinc

- Total & Dissolved

Table 3-2
Analytical Profile II -- Groundwater Inorganic Parameters

Major Ion Chemistry	Minor Ion Chemistry	Trace Ion Chemistry
Lab pH Lab Conductivity Temperature (field) Turbidity Total Suspended Solids Total Dissolved Solids *Calcium *Magnesium *Potassium *Silicon *Sodium Sulfate Sulfide Chloride Alkalinity (as CaCO ³) Bicarbonate Total Calcium Hardness Magnesium Hardness	*Arsenic Fluoride *Iron *Manganese Nitrogen, Ammonia Nitrate as Nitrogen Nitrite as Nitrogen Total Phosphorus TPH	*Antimony *Barium *Bismuth *Cadmium *Chromium *Copper *Lead *Mercury *Selenium *Silver *Zinc

*Total & Dissolved

Table 3-3
Analytical Profile III -- Organic Parameters

Benzene	Lindane
Carbon tetrachloride	Methoxychlor
Chlordane	Methyl ethyl ketone
Chlorobenzene	Nitrobenzene
Chloroform	Pentachlorophenol
o-Cresol	Pyridine
m-Cresol	Tetrachloroethylene
p-Cresol	Toluene
2,4-D	Toxaphene
1,4-Dichlorobenzene	Trichloroethylene
1,1-Dichloroethylene	2,4,5-Trichlorophenol
Endrin	2,4,6-Trichlorophenol
Ethyl Benzene	2,4,5-TP (silvex)
Heptachlor	Vinyl chloride
Hexachlorobenzene (and its hydroxide)	PCB
Hexachlor-1, 3-butadiene	Xylene (total)
Hexachloroethane	

4.0 MONITORING/SAMPLE RECORDS AND REPORTING

4.1 DOCUMENTATION OF MEASUREMENTS, SAMPLING, INSPECTIONS

For each measurement or sample taken pursuant to this monitoring plan the following information shall be recorded:

- a. The exact place, date, and time of inspection, observation, measurement, or sampling;
- b. The person(s) who inspected, observed, measured, or sampled;
- c. The dates the analyses were performed and by which analytical facility;
- d. The analytical techniques or methods used;
- e. The accuracy of the analytical method (detection limits); and
- f. The results of all required analysis.

4.2 RETENTION OF RECORDS

During operation, closure and reclamation all records of monitoring activities and results, calibrations, and maintenance records will be retained for a period of three years.

4.3 MONITORING REPORTS AND SUBMISSION SCHEDULES

Monitoring results will be submitted quarterly to ADEC. All quarterly reports will be submitted on or before the 15th day of the month following the quarter. An annual report through September 30th of each year, including raw data (if required), will be presented to the ADEC, COE and EPA two weeks prior to the annual meeting. The annual report prepared for the ADEC, COE and EPA will address the analytical results of analysis (ROA's).

Reports will be on forms or in a data base format, which is agreeable to ADEC, COE and EPA.

5.0 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

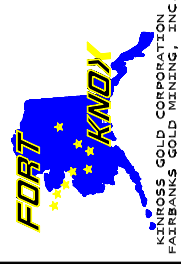
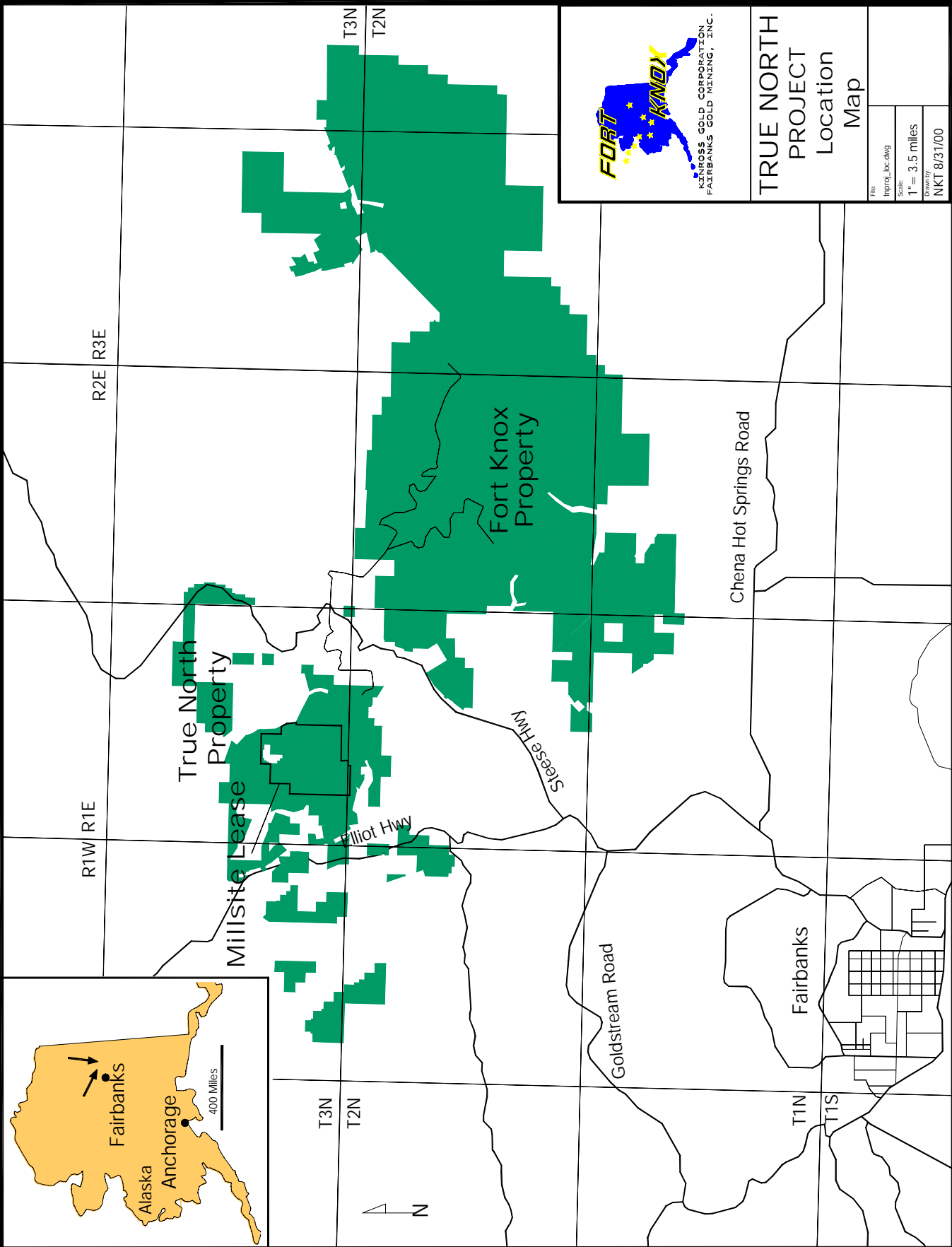
The *True North Project Water Monitoring QA/QC and Field Procedures Manual* has been designed to reflect current baseline and compliance monitoring at the True North Project (Appendix D). The analytical QA/QC program for FGMI's contract laboratory, incorporated into the above referenced document, will be updated routinely or whenever a different laboratory is used.

6.0 POTABLE WATER MONITORING PUBLIC WATER SYSTEM

Water will be trucked to the True North Project on a weekly basis. Routine sampling and analysis of water from the system at appropriate points and appropriate times will be in accordance with the intervals set out in Tables B and C of 18 AAC 80.200. Reporting requirements will conform to 18 AAC 80.260.

7.0 IMPACTS TO AVIAN AND TERRESTRIAL WILDLIFE

Wildlife mortalities occurring within the Millsite Lease boundary and along the access/haul road will be reported to the ADF&G. Moose mortalities will be report to Alaska Fish and Wildlife Troopers so charitable organizations can be contacted to salvage useable meat.



TRUE NORTH
PROJECT
Location
Map

File:	mapproj_loc.dwg
Scale:	1" = 3.5 miles
Drawn by:	NKT
Date:	8/31/00